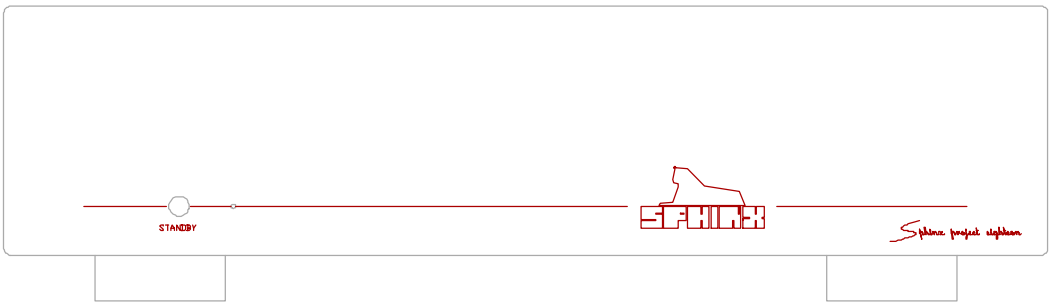
USER MANUAL

PROJECT EIGHTEEN

DUAL MONO STEREO POWER AMPLIFIER



1. UNPACKING 3

2. SPHINX WARRANTY CARD 3

3. THE POWER AMP AT A GLANCE 4
Front panel 4
Rear panel 5

4. INSTALLATION AND CONNECTIONS 6
Installation 6
Connections in general 6
Connecting loudspeakers 6
Connecting the inputs 6
Balanced 6
Unbalanced 6
Connecting the optical cables 7
Connecting the mains power cable 7

5. OPERATION 8
Power On 8
Power off 8
Warnings 8
If you encounter problems... 8

6. CARE AND MAINTENANCE 9

7. TECHNISCHE DATEN 9

Congratulations with your purchase of the Sphinx Project Eighteen!

You are now part of an ever increasing group of quality conscious audiophiles using Sphinx products.
We are very proud of the tradition connected to the SPHINX name especially concerning audio quality perfection.
This manual will help you to gain a maximum amount of pleasure and quality from your new Sphinx Project Eighteen.

The power amp handles the largest signal peaks and transients with ease, and has no problem with any size and sort of loudspeaker load: even the most demanding.

These characteristics are the result of several new technologies and components. Like for instance the unique power supply which assures a stable and noise free operation. The special toroid transformer (one for each channel!) of 650 VA has the size of a 1000 VA model: safely overspecified. Thanks to the generous energy reserve of 66,000 µF (formed by 30 capacitors in parallel) unlimited power is available for the largest signal peaks. Furthermore there are three completely separate power supplies for the input section, driver section and the logic and indicator section.
Much attention has also been paid to the physical layout, the positioning of components and the internal grounding. This results in a equivalent input noise value of <1 µV (<-120 dBV!): remarkable for a pre-amp, but really astounding for a big power amp with two transformers.

To obtain the maximum quality from this power amp it is necessary to use it with top quality audio components. So preferably use it with other Sphinx components.

Please read this manual carefully before you install or use the Project Eighteen. It is important to familiarise yourself with the special functions, operation and possibilities of the Sphinx Project Eighteen.

Your local dealer will be able to answer any questions concerning other Sphinx audio components.

1. UNPACKING

Before leaving the factory every Project Eighteen is subjected to stringent and extensive technical and exterior quality inspections.
This ensures you will enjoy many years of high quality audio from a perfect looking product.

Attention: The power amp weighs over 24 kg! Never lift it out of the carton without someone helping you.

After unpacking your Project Eighteen we therefore recommend you carefully check it for any transport damage.
In case of damage: please contact your Sphinx dealer immediately and retain all packing materials for possible proof of damage and possible claims.

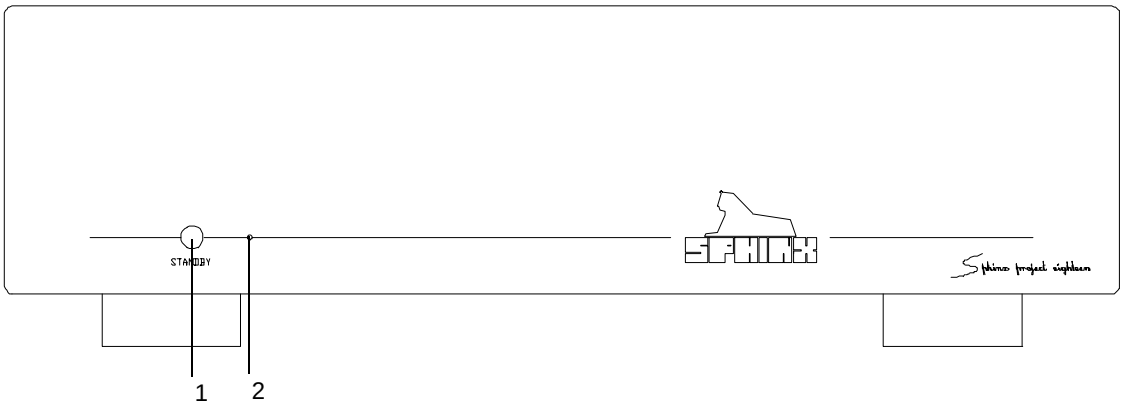
Even if the component is in perfect condition you still should keep the packing materials. If you need to transport your Project Eighteen at a later time it will be best protected by the original packing materials.

2. SPHINX WARRANTY CARD

Please takes this opportunity to fill out the enclosed warranty card now!
Follow the instructions on the card or consult your dealer.
Please send the card as soon as possible to the return address (within 14 days after purchase).

3. THE POWER AMP AT A GLANCE

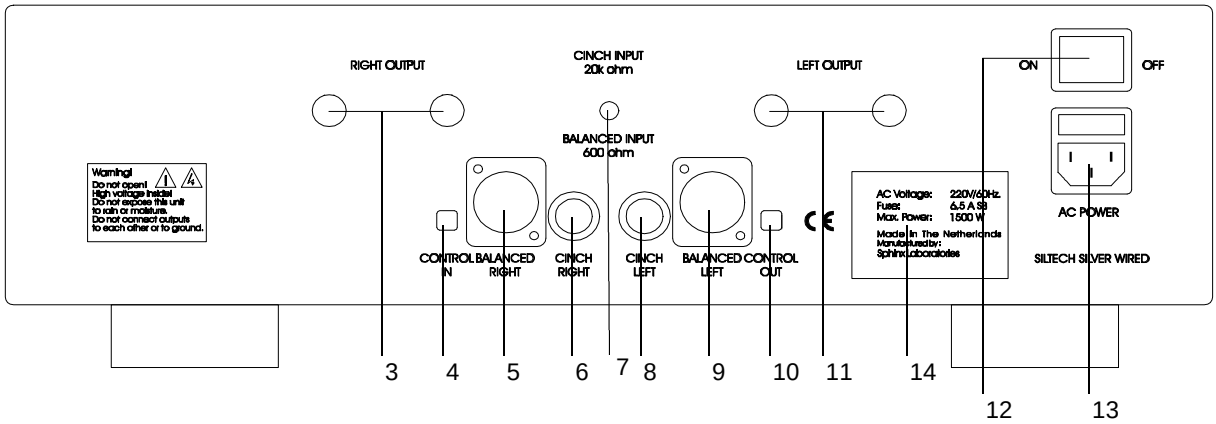
Front panel



1. **STANDBY**: To switch the component on and off.

2. **LED**: Indicates the selected function:
   stand-by red
   on green.

Rear panel



3. **RIGHT OUTPUT:** To connect the cable from the right loudspeaker:
   red +
   white -
4. **CONTROL IN:** To connect the optical cable coming from another Sphinx component like a pre-amp.
5. **BALANCED RIGHT**: To connect the XLR cable (balanced cable) from the right output of the signal source.
6. **CINCH RIGHT:** To connect the cinch cable from the right output of the signal source.
7. **CINCH/BALANCED INPUT:** With this switch you may select between the inputs:
   up unbalanced (6 and 8)
   down balanced (5 and 9)
8. **CINCH LEFT:** To connect the cinch cable from the left output of the signal source.
9. **BALANCED LEFT**: To connect the XLR cable (balanced cable) from the left output of the signal source.
10. **CONTROL OUT:** To connect the optical cable going to another Sphinx component.
11. **LEFT OUTPUT:** To connect the cable from the left loudspeaker:
    red +
    white -
12. **ON/OFF**: This is the mains power master switch.
13. **AC POWER**: Connect the power amp with the cord to a mains outlet (230 - 240 VAC).
    The mains fuse is placed behind the cover.
14. **Manufacturer's label:** Here you'll find important data of this component such as serial number and mains voltage to be used.

4. INSTALLATION AND CONNECTIONS

Installation

Attention: The power amp weighs more than 24 kg!
So make sure you place the Project Eighteen on a stable and sturdy support.

Never 'stack' two power amps on top of each other.

The Project Eighteen will become warm so correct placement is critical. Do *not* position it on top of or close to other heat radiating equipment (such as other power amps) or in direct sunlight.

Please ensure the unrestricted ventilation around the component.

If you need to use the amp in a closed cabinet or on a bookshelf you absolutely provide unrestricted ventilation around the component.

To prevent any possible interference keep power supply cables away from all audio cables.

If all these conditions will be met the Project Eighteen shall perform to the extremely high standards it is designed for.

Connections in general

Before you start connecting equipment it always is wise to check whether all mains power cables of all components are disconnected from the mains outlets!
This will prevent any damage to the loudspeakers and amplifiers caused by incorrect wiring or settings.

Always use loudspeaker and audio cables and connectors of the highest quality.

Siltech cable is used throughout internally so we recommend using this same cable for all external connections.
If you have the choice between longer loudspeaker cables or longer audio cables, choose the latter (cables between preamp and power amp will cause the least signal quality loss).

Connecting loudspeakers

We recommend using a double pair of cables if this is possible with the loudspeakers used (one pair for the highs and another for the lows).
In most cases you will hear a substantial improvement in the sound quality (but: be careful to prevent shorted connections).
Your dealer can recommend the best cables and connection methods.

Connect the red RIGHT OUTPUT terminal (3.) to the red or '+' terminal of the right loudspeaker.
Connect the black RIGHT OUTPUT terminal (3.) to the black or '—' terminal of the right loudspeaker.
Connect the left loudspeaker in the same way to the LEFT OUTPUT terminals (11.)
When using unterminated cables please check carefully if there are no 'loose ends' cause a short between the '+' and the '—' of the terminals on amp and loudspeakers!

Connecting the inputs

Make sure you connect L and R properly. Most cinch cables use Red for the Right channel and White or Black for Left.
All cinch connectors on the Project Eighteen's rear panel have a red centre for the right channel and a white one for the left channel.
The XLR connectors are marked BALANCED RIGHT and LEFT.
When making the connections please refer to the descriptions for parts 3. up to 13. on page 5.
The Project Eighteen has two input types

Balanced

To the BALANCED LEFT and RIGHT(600 Ω) inputs you connect the corresponding outputs from the pre-amp.

Unbalanced

The unbalanced inputs CINCH LEFT and CINCH RIGHT (20 kΩ) can be used for any unbalanced line level signal (like from a pre-amp).

Use only one type of input. The switch (7.) on the rear panel lets you select between the type of inputs.
Note: Do not place a so-called 'shorting connector' in the unused input.

Connecting the optical cables

The Project Eighteen has an optical jack connector for CONTROL IN and CONTROL OUT.

When the CONTROL IN of the Project Eighteen has been connected to the CONTROL OUT of another Sphinx component you don't have to switch the Project Eighteen with ON/OFF switch (12.). The power amp will automatically select Stand-by mode as soon as the other component is set to stand-by.

In 'stand-by' mode the bias current of the power amp is set to a lower level which drastically decreases the temperature and power consumption. On top of that it significantly increases the life span of the component.
The power amp also warms up more speedily so you will be able to enjoy it's maximum performance without significant delay.

When the CONTROL OUT of the Project Eighteen has been connected to the CONTROL IN of another Sphinx component (which most likely will be another power amp) this component will be selected to stand-by by the Project Eighteen's stand-by mode.

Ensure proper connection of the optical cables (from CONTROL OUT to CONTROL IN), otherwise the LED next to the STANDBY button (1) on the front panel may remain green although the stand-by mode is activated.

If the Project Eighteen is placed in strong direct sunlight the stand-by mode might be self-activated. In that case you should place the supplied dummy connector in the CONTROL IN (4.) jack (but only if this is not being used).

We strongly recommend against placing the component in direct sunlight though.

Connecting the mains power cable

Before you connect the cable please check whether the mains voltage indicated on the manufacturers label on the rear panel is the same as your local mains voltage.
If not: please contact your dealer and do not connect the component to the mains.

Connect the mains cable after you have connected all other components in the system and have double-checked all connections.

5. OPERATION

Connect the mains cable of the Project Eighteen to an mains outlet.

Only after you have connected all other components, you may switch the Project Eighteen on with the ON/OFF switch (12.) on the rear panel.

From now on you should switch the power amp on and off with the STANDBY button (1.) on the front panel or the STANDBY button of another Sphinx component connected to the optical CONTROL IN jack.
This way all circuits will remain at working temperature and the audio quality will be 100 % within 15 minutes after activating. On top of that it considerably increases the life span of the component.

The Project Eighteen is in stand-by mode and the LED (2.) shows a red indication.

Power On

You switch the Project Eighteen on with the STANDBY button: the LED becomes green.

If you activate the power amp for the first time or after a long period of non-use with the power 'off' the amp will be at maximum performance after one hour.
From stand-by mode it only takes around 15 minutes.

Power off

You switch the Project Eighteen off (stand-by) with the STANDBY button (1).

Only if you will not be using the amp for a long period (e.g. during holidays) we recommend switching the amp off with the ON/OFF switch (12.). Because in stand-by mode the Project Eighteen's power consumption is still around the 70 W mark.

Warnings

1. Never put two amps on top of each other.
2. The component should not be subjected to moisture of fluids.
3. Do not touch the component and the loudspeaker outputs in particular with moist hands: this powerful amp can output voltages in excess of 36 volt.
4. Before removing the top panel, you should disconnect the mains cable and wait at least 30 minutes (because the power supply remains at the maximum voltage for a long time). Removing the top panel does void your warranty though: the panel should therefore only be removed by an official Sphinx service engineer!
5. Before disconnecting a loudspeaker or audio cable, please switch of the component with the ON/OFF switch (12.)
6. An AC extension cord should never be used wholly or partly coiled: this poses a severe fire risk!

If you encounter problems...

If after power on the protection circuits detect something wrong the Project Eighteen will immediately switch to stand-by: the LED indication will be red.

In almost all occurrences the problem has to do with the loudspeaker cables.
Check every single one and solve the problem.

If you can't find the problem or the cause is definitely not the cables, please contact your Sphinx dealer.

Should for some reason the mains fuse be destroyed you should replace it with a new one of exactly the same type and rating:

5x20 mm
250 VAC / 6 A / slow

The fuse sits behind the cover in the mains connector (13.).

Never use a fuse of a different rating: this could lead to serious damage and may cause fire!

6. CARE AND MAINTENANCE

Clean the exterior with a soft, lint-free, anti-static cloth. Do not use force while wiping the surface. To remove difficult stains use a few drops of detergent on a moist cloth, sweep carefully and wipe dry afterwards.

If some scratching might occur, please first consult your Sphinx dealer. He can give you advice about possible solutions.

Do not use polishing or cleaning agents: they may damage the sensitive acrylic finish.

Do not use aerosol cleaning agents.
Most contain solvents which might actively react and damage the acrylic finish.

7. TECHNICAL SPECIFICATIONS

Bandwidth	0 - 100,000 Hz (+0/-1 dB, with input filter)
Phase response error	<1° (0 - 20,000 Hz)
Gain	30 dB max.
Minimum Power Output (1 - 20,000 Hz)	>2x 160 W into 8 ohm (22.0 dBW), THD<0.01%
	>2x 280 W into 4 ohm (24.5 dBW), THD<0.01%
	>2x 420 W into 2 ohm (26.2 dBW), THD<0.01%
Output voltage / current, max.	36 V / 43 A
THD+N (IHF-A)	<0.01% (1 W into 8 ohm, 1 - 20,000 Hz)
IMD	<0.01% (100 W into 8 ohm)
S/N ratio (IHF-A)	>120 dB (1 W into 8 ohm)
Common Mode Rejection Ratio	>80 dB (@ 100 Hz)
Slew rate	>50 V/µs
Damping factor	>2000 (1 - 20,000 Hz)
Input	cinch: unbalanced / XLR: balanced
level, nominal	1.25V (1.9 dBV) / 1.25 V (1.9 dBV)
impedance	20 kohm / 600 ohm
Supply capacitance	132,000 µF total
Power consumption	1500 W max. (70 W standby)
Dimensions (h x w x d)	143 x 482 x 452 mm
Weight	24 kg

This unit conforms to the EMC interference regulations from the EU and to the CE standards.
This unit complies with safety regulation VDE 0860 and thus with international safety regulation IEC 65.

Technical specifications can be changed by SPHINX without prior notice if technical developments make this necessary.

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